IN THE CLAIMS

Please amend claims as follows:

1. (Currently Amended) A method, comprising:

partitioning a cache array into one or more special-purpose entries and one or more general-purpose entries, wherein special-purpose entries are only allocated for one or more streams having a particular stream ID, wherein the stream ID is stored outside the cache array.

2. (Original) The method as claimed in claim 1, further comprising allocating the one or more special-purpose entries based on the particular stream ID and a particular input address.

3. (Original) The method as claimed in claim 2, further comprising

storing data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address match a predetermined stream ID and a predetermined input address; and

storing data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the predetermined stream ID and the predetermined input address.

4. (Original) The method as claimed in claim 3, further comprising

determining when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address using special-purpose control

logic; and

using a cache replacement algorithm implemented using general-purpose control logic for the one or more general-purpose entries.

5. (Original) The method as claimed in claim 4, further comprising determining if a cross-access scenario exists.

6. (Original) The method as claimed in claim 5, wherein the one or more streams are special-purpose streams including graphics streams.

7. (Currently Amended) A device comprising:

a cache memory array partitioned into one or more special-purpose entries and one or more general-purpose entries, wherein special-purpose entries are only allocated for one or more streams having a particular stream ID, wherein the stream ID is stored outside the cache array.

8. (Original) The device as claimed in claim 7 further comprising:

control logic to allocate the one or more special-purpose entries based on the particular stream ID and a particular input address.

9. (Original) The device as claimed in claim 8, wherein the control logic further comprises:

special-purpose control logic to store data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address

match a predetermined stream ID and a predetermined input address; and

general-purpose control logic to store data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the predetermined stream ID and the predetermined input address.

10. (Original) The device as claimed in claim 9, wherein the special-purpose control logic determines when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address; and the general-purpose control logic implements a cache replacement algorithm for the one or more general-purpose entries.

11. (Original) The device of claim 10, further comprising a DRAM controller integrated with the cache memory array.

12. (Original) The device of claim 11, further comprising an integrated graphics controller, a host AGP controller, and an I/O hub interface coupled to the DRAM controller.

13. (Currently Amended) A computer-readable medium having stored thereon a plurality of instructions, the plurality of instructions when executed by a computer, cause the computer to perform the method comprising:

partitioning a cache array into one or more special-purpose entries and one or more general-purpose entries, wherein special-purpose entries are only allocated for one or more streams having a particular stream ID, wherein the stream ID is stored outside the cache array.

14. (Original) The computer-readable medium of claim 13 having stored thereon additional instructions, the additional instructions when executed by a computer, cause the computer to further perform the method of allocating the one or more special-purpose entries based on the particular stream ID and a particular input address.

15. (Original) The computer-readable medium of claim 14 having stored thereon additional instructions, the additional instructions when executed by a computer, cause the computer to further perform the method of

storing data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address match a predetermined stream ID and a predetermined input address; and

storing data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the predetermined stream ID and predetermined input address.

16. (Original) The computer-readable medium of claim 15 having stored thereon-additional instructions, the additional instructions when executed by a computer, cause the computer to further perform the method of

determining when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address using special-purpose control logic; and

using a cache replacement algorithm implemented using general-purpose control logic for the one or more general-purpose entries.

17. (Original) The computer-readable medium of claim 16 having stored thereon-additional instructions, the additional instructions when executed by a computer, cause the computer to further perform the method of determining if a cross-access scenario exists.

18. (Original) The computer-readable medium of claim 17, wherein the one or more streams are special-purpose streams including graphics streams.

19. (Currently Amended) A system, comprising:

means for partitioning a cache array into one or more special-purpose entries and one or more general-purpose entries, wherein special-purpose entries are only allocated for one or more streams having a particular stream ID, wherein the stream ID is stored outside the cache array.

20. (Original) The system as claimed in claim 19, further comprising

means for allocating the one or more special-purpose entries based on the particular stream ID and a particular input address.

21. (Original) The system as claimed in claim 20, further comprising

means for storing data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address match a predetermined stream ID and a predetermined input address; and

means for storing data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the

predetermined stream ID and predetermined input address.

22. (Original) The system as claimed in claim 21, further comprising means for determining when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address using special-purpose control logic; and

means for using a cache replacement algorithm implemented using general-purpose control logic for the one or more general-purpose entries.

23. (Original) The system as claimed in claim 22, further comprising means for determining if a cross-access scenario exists.

24. (Original) The system as claimed in claim 23, wherein the one or more streams are special-purpose streams including graphics streams.

25. (Currently Amended) A system, comprising:

a system memory controller, comprising

a cache memory array partitioned into one or more special-purpose entries and one or more general-purpose entries, wherein special-purpose entries are only allocated for one or more streams having a particular stream ID, wherein the stream ID is stored outside the cache array, and

control logic coupled to the cache memory array; and system memory connected to the system memory controller.

26. (Previously Presented) The system as claimed in claim 25, further comprising one or more interfaces connected to the system memory controller, including

an I/O hub interface connected to a bus,

a processor interface; and

a host AGP controller connected to the system memory controller via the bus;

wherein the cache array receives the cache operation requesting data via the one or more interfaces, and returns a cache hit in response to the cache operation, wherein the cache has a pending fetch for the data in response to a prior cache operation requesting the data.

27. (Previously Presented) The system as claimed in claim 26, wherein the processor interface connects to a processor of a plurality of processors, the plurality of processors including a 16 bit processor and a 64 bit processor.

28. (Previously Presented) The system as claimed in claim 25, wherein the control logic further comprises:

special-purpose control logic to store data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address match a predetermined stream ID and a predetermined input address; and

general-purpose control logic to store data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the predetermined stream ID and the predetermined input address.

29. (Previously Presented) The system as claimed in claim 28, wherein the special-purpose control logic determines when the particular stream ID and the particular input

address match the predetermined stream ID and the predetermined input address; and the general-purpose control logic implements a cache replacement algorithm for the one or more general-purpose entries.

30. (Currently Amended) A device, comprising:

a hub interface to use with a 64-bit processing architecture;

a cache memory array partitioned into one or more special-purpose entries and one or more general-purpose entries; and

control logic to allocate the one or more special-purpose entries based on a particular stream ID and a particular input address, wherein the stream ID is stored outside the cache array.

31. (Previously Presented) The device as claimed in claim 30, wherein the control logic further comprises:

special-purpose control logic to store data from the one or more streams in the one or more special-purpose entries when the particular stream ID and the particular input address match a predetermined stream ID and a predetermined input address; and

general-purpose control logic to store data from the one or more streams in the one or more general-purpose entries when the particular stream ID and the particular input address do not match the predetermined stream ID and the predetermined input address.

32. (Previously Presented) The device as claimed in claim 31, wherein the special-purpose control logic determines when the particular stream ID and the particular input address match the predetermined stream ID and the predetermined input address; and the general-purpose control logic implements a cache replacement algorithm for the one or more

general-purpose entries.

33. (Previously Presented) The device of claim 32, further comprising a DRAM controller integrated with the cache memory array.

34. (Previously Presented) The device of claim 32, further comprising an integrated graphics controller, and a host AGP controller.

35. (New) The device as claimed in claim 9, wherein the special-purpose control logic and the general-purpose control logic further comprise logic to determine if a cross-access scenario exists.

36. (New) The system as claimed in claim 28, wherein the special-purpose control logic and the general-purpose control logic further comprise logic to determine if a cross-access scenario exists.

37. (New) The device as claimed in claim 31, wherein the special-purpose control logic and the general-purpose control logic further comprise logic to determine if a cross-access scenario exists.

38. (New) The method as claimed in claim 1, wherein the stream ID being stored outside the cache array permits cross-access between the one or more special-purpose entries and the one or more general-purpose entries.

39. (New) The device as claimed in claim 7, wherein the stream ID being stored outside the cache array permits cross-access between the one or more special-purpose entries and the one or more general-purpose entries.

40. (New) The system as claimed in claim 19, wherein the stream ID being stored outside the cache array permits cross-access between the one or more special-purpose entries and the one or more general-purpose entries.